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Special Session Call for Papers
SMC2016 Special Session on

Innovative Computational Intelligence, Learning Representation of Data, and Industrial Applications

Special Session Co-organizers:

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Important Dates
April 15, 2016: Deadline for submission of full-length papers to special sessions.
May 25, 2016: Acceptance/Rejection Notification.
July 9, 2016: Final camera-ready papers due in electronic form.

Submission
Manuscripts for a Special Session should **NOT** be submitted in duplication to any other regular or special sessions and should be submitted to SMC 2016 main conference online submission system on SMC 2016 conference website.

All submitted papers of Special Sessions have to undergo the same review process. The technical reviewers for each Special Session paper will be members of the SMC 2016 Program Committee and qualified peer-reviewers to be nominated by the Special Session organizers.

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IEEE HIROSHIMA SECTION SMC CHAPTER

Introduction

Computational Intelligence technologies have made great progress in recent decades. Real world environments produce large-scale, high-dimensional, multi-modal, sequential and ambiguous data. Since many real world problems are not considered to be well-posed mathematically, attempts of analytic approaches to find solutions met some difficulties. For dealing with such complex data, various techniques are required such as visualization by clustering of multi-modal and sequential data, automatic feature extraction by representation learning, acquisition of comprehensible knowledge from learning results and so on. Driven by such motivation, emerging computational intelligence approaches have been proposed in the soft-computing areas like artificial neural networks, evolutionary computation and fuzzy theories, and many of these innovative technologies are now becoming popular in the field of computer science such as pattern recognition, combinatorial optimization problems etc. The advanced technology of the recent successes is Deep Learning, with the advancement of computer hardware providing high performance computing like GPGPU environments. According to the brisk activities, many researchers also have been able to challenge solving industrial problems such as the control system of industrial robots, analysis of medical database, etc. We discuss in this session the computational intelligence technologies for learning real world complex data, which will make an explicit or implicit knowledge to the real world problems that prior technologies cannot provide satisfactory solutions.

Indicative Topics/Areas

*Deep Learning, *Neural Networks, *Evolutionary Computation, *Fuzzy Theory, *Swarm Intelligence, *Artificial Immune System, *Reinforcement Learning, *Other Softcomputing Methodologies, *Big Data Technology, *Image Processing, *Intelligent Learning of Control System, *Computer Education and E-learning, *Medical Informatics, *Other Industrial Applications